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Chapter II THEORETICAL ORIENTATION

This Chapter will elaborate the theoretical foundation which is used in this research. It discusses from the discourse of development, the role of culture in development, the Plural Community Institutional Systems and Ethno-economics and Applied Ethnoscience and Development, which are used in this study.

2.1. Development Discourse at a Glance

Development theory, policies and practices have appealed to leaders and development planners of both poor and wealthy nations, developing and developed countries. Development is still an important subject to consider in the achievement of human well-being and a nation's welfare, although the concepts and practices have been 'self-critical and subject to critiques' (cf. Cooper & Packard 1998). There are numerous approaches used in looking at development. It encompasses the discussion on the subjects of development and institutions involved in development, including the implementation of development. Several studies such as by Warren, Slikkerveer & Brokensha (1995), Leys (1996), Haque (1999), Willis (2004), Todaro & Smith (2005), Shaffer, Deller & Marcouiller (2006), and Hill (2014) have highlighted those various aspects of development.

2.1.1. Development Theories: Classical Foundations and Debates

Development is one of the important subjects which have attracted the attention of many scientists from different academic disciplines, policy makers, development planners and development practitioners. Development refers to any transformation exertions that enhance the well-being of people, community, and the whole society or country. As defined by Allen (2000): *'development is a multidisciplinary, social sciences branch, which accentuates issues concerning developing countries.'* Development involves historical analyses of particular societies and various places, with various topics related to social, cultural, political, technological, and economic aspects of development. However, most of the development planners put their emphasis more on the perspective of economic development, as is highlighted by the study of Leys (1996). The work pre-dominantly elaborates the influences of economic aspects of development by Keynes & Marshall, the development criticism by Gunnar Myrdal, Rostow's Stages of Economic Growth, the dependency theory by Karl Marx, and the discussion on the neoliberal approach in development. Each of those approaches has its historical context of their influences in the development theories and practices. The study also underlined the importance of putting correct assumptions in the implementation of the particular development approach (cf. Leys 1996). In contrast to Leys (1996), Todaro & Smith (2005) state that development is not solely an assessment of the economic phenomenon, but furthermore, it is a multi-dimensional process, as indicated earlier by Allen (2000). It encompasses the reorganisation and the reorientation of the entire economic and social system.

Slikkerveer & Decehering (1995) and Hill (2014) propose that a development model should be based on the heterogeneities among different countries. Thus, the development approaches should be different from one to another. Clammer (2005) furthermore states that the debate on development theories has recently brought the concept of culture back to the central stage of development, especially as a result of obvious failures of conventional approaches to economic growth and social transformation. In this context, there are three critical objectives to be achieved in any development approach: 1) to improve the living standard of the people, *i.e.* the

level of income and consumption, food quality, access to health-care services, including access to educational services; 2) to achieve certain circumstances, which improve the self esteem of the people, through the establishment of social, political and economic systems, including institutional supports which encourage human dignity and respect; and 3) to enhance the freedom of the people, to have more preferences and privileges in the utilisation of the variety of goods and services. These development objectives bear the development discourse into an essential concern in the development theories and policies: the problem of poverty. At a simple definition, poverty refers to the inability of certain people to have proper access to basic needs for living. In relation to that, Morduch & Haley (2002) underscore the difficulty to define poverty as it relates to different approaches to elaborate the problems and to provide any solutions. When poverty is represented by the level of income, giving the poor a proper job could be considered as a solution. However, providing nutritious foods to the poor might be the correct remedy to a malnutrition problem.

One of the well-known measurements of poverty is a poverty line. This measure was introduced by the World Bank. It is a minimum standard of income where people are categorised as poor, when they are unable to access basic needs, *i.e.* food, clothes, shelter, education and health-care services. In certain countries, poor people are entitled to get social welfare or supporting allowance from the government. Shah (2011; 2013) describes the world's figure of poverty where, according to the standard of the World Bank of USD 1.25 per day, the number of people who live at the poverty line or below were about 1.4 billion in 2011. This number is higher than the initial estimation of 984 million people, using the former measure of USD 1 per day which was set in 2004. In Indonesia, around one-third of the people are living under the poverty line of USD 1.25 per day or about half of the population is living poorly by using the USD 2 standard of the new poverty line in 2011. The percentage of poor people in Indonesia is considered higher than the proportion of poverty of the world's population. However, approaching poverty requires a more comprehensive view. It involves various aspects of the society, from economic aspects to health-care services, from education to the culture of the people. A recent definition of poverty by the World Bank extended the income-based measurement of poverty to a more holistic perspective, including the lack of opportunities and capabilities, a sense of voicelessness and vulnerability to external shocks (*cf.* World Bank 2000; 2015; Shah 2011; 2013; De Bekker 2016).

The problems of poverty are so pervasive that the United Nations has listed poverty eradication as the first objective in the Millennium Development Goals (MDGs). Introduced in September 2000, the 8 MDGs are as follows: a) eradicate extreme poverty and hunger; b) achieve universal primary education; c) promote gender equality and empower women; d) reduce child mortality; e) improve maternal health; f) combat HIV/AIDS, malaria and other diseases; g) ensure environmental sustainability and h) develop a global partnership for development (*cf.* United Nations 2000). The MDGs set all countries to improve their development progress in various sectors. After fifteen years of its announcement, the United Nations made a report on the evaluation of MDGs. It was generally reported that the UN's MDGs had made positive progress all over the world. It can be read from various reports and publications which are published *i.e.* by the United Nations and the World Bank. The MDGs helped to lift more than one billion people all over the world out of poverty, established a huge dialogue to include every country to participate in the formulation and the achievement of development, and reshaped decision-making by policy makers in developed and developing countries (*cf.* United Nations 2015; Kafungwa 2017). However, there are some critics towards the United Nations' MDGs and its achievements. Fehling, Nelson & Venkatapuram (2013) reviewed not less than 90 articles on the critical examination towards MDGs. One of the main criticisms regards the formulation of MDGs: who identified the goals and targets, and how and why certain goals were chosen and what political agendas influenced the structure of the MDGs.

According to Amin (2006), the overall concepts and approaches of MDGs were mainly driven by the United States, Europe and Japan. It was co-sponsored by the World Bank, The International Monetary Fund (IMF) and the Organisation for Economic Cooperation Development (OECD). Richard *et al.* (2011) underscored that only 22% of the world's national parliaments formally discussed MDGs, while Kabeer (2005) and Waage *et al.* (2010) state that there was very little participation of developing countries and civil society constituencies in the creation of the MDGs.

It is not surprising that Fukuda-Parr (2010) questions the real achievement of the MDGs, in comparison with the initial goals which were set in the beginning of the announcement by the UN in 2000. Hill, Mansoor & Claudio (2010) and Waage, Banerji & Campbell *et al.* (2010) highlighted that only one of the eight key objectives became fundamental to the MDGs' framework. The other critical development objectives, *i.e.* peace, security, disarmament, and human rights, were left behind. Mishra (2004) and Oya (2011) found that the MDGs ignore local and governance capabilities. Ties, Mathers and Abouzahr (2010) state that the MDGs give less consideration to national baselines, contexts and their capacities in the implementations.

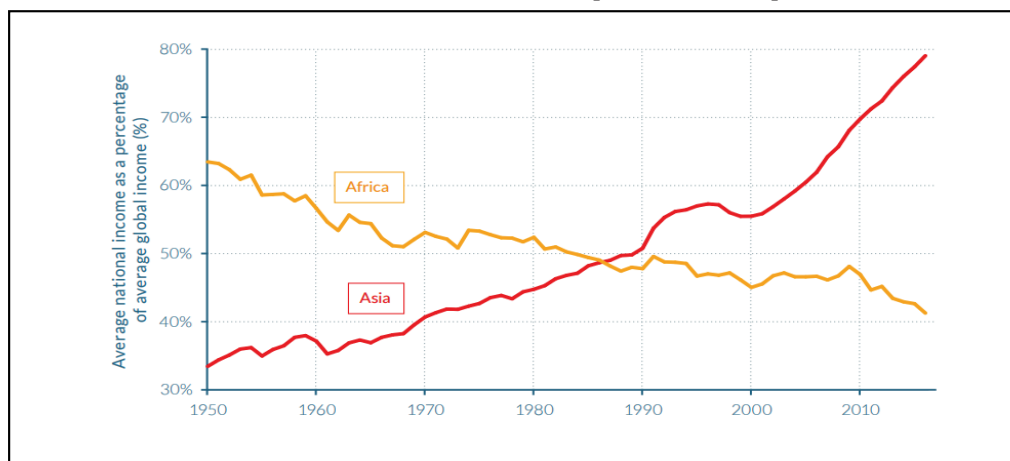


Figure 2.1. Comparison of Income Inequalities between Asian and African Countries.
 Source: WID (2018).

Another criticism which today became very significant to address is that the MDGs miss their goals to reduce inequalities within and between countries (*cf.* Fukuda-Parr 2010). It is not surprising that according to the recent report by The World Inequality Database (WID) (2018), the world's income inequality has increased in nearly all world regions in recent decades with various progressions. The global top 1% income earners have captured twice as much of that growth as the poorest 50% of individuals. The inequalities are becoming wider between, *i.e.* Asian and African countries as seen in the above Figure 2.1.

The general impression is that the rich groups of the population are becoming richer, while the poorest groups become poorer. Income inequality does not only lead to a lowering overall life expectancy of some groups in society, but it also causes them to have lesser access to health care, education, and other public services. It is estimated that global inequality will further increase in the next few decades, unless the leaders of the countries consider changing their policies and making significant utilisations on the institutional factors in development. (*cf.* Dabla-Norris *et al.* 2015; Yap 2015; Rama *et al.* 2015; WID 2018). Furthermore, Dabla-Norris *et al.* (2015) mention: *'Irrespective of ideology, culture, and religion, people care about inequality. Inequality can be a signal of a lack of income mobility and opportunity - a reflection of*

persistent disadvantage for particular segments of the society'. The increase of inequality can generate economic instability as was the case in 2008 during the global financial-economic crisis and the related obstacles to global growth and employment. The establishment and progress of the United Nation's MDGs as well as its critical examinations extend the discussion on the development discourse to the problem of a situation of imbalance among different countries, amidst under-developed, developing and developed countries. Poverty alleviation and reducing inequalities became important topics in the development discourse in reducing the number of people under the poverty line.

The discourse between economic growth and inequalities brings back to a debate between *pro-growth* versus *pro-poor* in the development discourse, the debates between *income growth* versus equal *income equal distribution* in development measures. The study of Eastwood and Lipton (2000) in 23 developing countries concludes that pro-growth policies might be relatively not pro-poor, although the results are considered varied among different countries. Reductions in severe inequality may be particularly pro-growth while high inequality is associated with low elasticity of poverty to growth. In another study, Lopez (2004) believes that pro-growth policies lead to reduce poverty in the long run and suggest pro-poor policies in the short-run to avoid to reduce inequalities, while Klees (2012) highlights the roles of the World Bank and the International Monetary Fund (IMF) in developing countries and concludes that the pro-growth policies are not pro-poor policies.

The term 'growth' and 'inequalities' in this study are considered within the society itself, and not determined by any outside development agencies as the main contributor to the development. It goes to the different perspective in defining well-being as the objective of development. For instance, while Townsend's definition of poverty in 1979 incorporates the inability to have holidays and offer food for friends, some local people in rural areas, particularly in Indonesia, have been enjoying 'holiday' at all times if holiday means to have outdoor activities, irrespective that they are coming from poor families. Thus, the measurement of poverty has become inadequate to generalise the picture. Shaffer, Deller & Marcouiller (2006) brought up a critical point on the philosophical foundations of development concepts and practices. According to them, attention to 'communities' has been neglected by many development planners and policy makers. Economists, by using the assumption of *ceteris paribus* ('all else being equal or constant'), often ignore various factors which became the concern of sociologists, political scientists, as well as other non-economic scientists. In many cases, poverty and inequalities are related to the life of the people at the community level. Therefore, the analysis of a community has become an important subject in the development discourse.

As mentioned by Shaffer, Deller & Marcouiller (2006), there are three different ways to define community: *firstly*, community as a place where space is a dominant part of the definition, such as the political boundaries of a municipality or country; *secondly*, community as a group of people with specific interests, where space plays very little role in the definition, such as a community of world anthropologists, economic developmentalists, etc; and *finally*, the last view which earmarks community as a logical decision-making unit that may or may not incorporate space. The community which they referred incorporates the first two definitions, but emphasises the point that a community can make and implement decisions. This approach refers to some political entity such as a village or municipality and include a trade area in which collective action can take place through a chamber of commerce, or urban neighbourhood through neighbourhood associations, school-based parent-teacher organizations, or church-based efforts. In addition to that, the culture of a community is influenced by socio-geographic factors, socio-demographic factors, and socio-cultural factors. These influence factors will determine the culture of a community as a whole, including the identification of the community needs, available institutions in the community, and the allocation and utilisation of available resources in the community. (*cf.* Shaffer, Deller & Marcouiller 2006).

2.1.2. Sustainable Development: Integrating Economical and Socio-Ecological Perspectives

The attention to community in development brought the discourse of development into broader perspectives than merely the economic approach. This concern brings the discussion to the concept of sustainable development. Sustainable development is generally defined as a development approach, which has an orientation to fulfil the needs of the present generations with a consideration towards the ability of the future generations in order to meet their future needs. The term 'sustainable development' was introduced by Brundtland (1987) in her book *Our Common Future*, published by the World Commission on Environment and Development (WCED). Sustainable development is a development attempt to alleviate poverty, create equitable living standards, satisfy the basic needs of all peoples, and ensure that there are no irrevocable damages to natural resources and nature. It attempts to balance economic aspects in the development of the community, with the related social and environmental factors (cf. WCED 1987; Rogers, Kazi & Boyd 2008). After 15 years of its implementation, the Millennium Development Goals (MDGs) which has been planned and programmed by all member countries, were evaluated. As the achievement of the MDGs has created side impact of inequalities among the people and countries, this would threaten the future generations. Thus, the new approach of sustainable development is accommodated and together with all leaders of the member countries, the United Nations launched the Sustainable Development Goals (SDGs) in 2015, as the successor to the previous programme of the MDGs. The SDGs, also known as *the Post 2015 Development Agenda*, emphasise on poverty reduction as the main goal to achieve with an expansion in the number of development objectives to be realised, i.e. 17 global goals to achieve within 15 targetted years, amounting to 169 sustainable development targets. The SDGs reaffirm the importance of multi-dimensional approaches in reducing poverty, which is going beyond economic deprivation. Therefore, a specific measure of a Multi-dimensional Poverty Index (MPI) has also been included to enhance the evaluation of poverty. This measurement would answer the call for a better measurement of poverty against the first Sustainable Development Goals: 'To end poverty in all its forms' (cf. United Nations 2015, 2017; De Bekker 2016; Slikkerveer, Baourakis & Saefullah 2019.).

To ensure that the development practices could apply sustainable approaches within the context of SDGs, the process of development should fulfil at least three criteria of Sustainable Development: *Environmentally Sound*, *Economically Productive*, and *Socially Just*. Development should not only improve the economic condition of people through income generating activities, but also ensure equal distribution among the people through the reduction of social disparities, i.e. socially just, and at the same time preserve the environment from any irresponsible behaviour of the exploitation of the resources, i.e. environmentally sound.

The IUCN Renowned Thinkers Meeting in 2006 concluded that sustainable development is a concept by which economic factors are considered together with social and environmental factors in the development theory and practices (cf. Swisher, Rezola & Sterns 2009).

Development implements a sustainable approach if the economic activity could also achieve social justice ('bearable'), preserve ecological factors, including non-human ecological factors ('viable'), as well as consider human ecological factors ('equitable'). For instance, mining is a manufacturing activity, which could increase the economic condition of the people and the community by giving some opportunities to them to get jobs in the industry. While the mining activity could accommodate people as the labour to the industry, the activity can be considered to be *bearable*. However, the exploitation of natural resources in the mining activity could harm the environment such as air and soil pollution, if the mining industry exploits the natural resources without considering some impacts from the industry, for instance, if the mining activities do not handle the industrial waste. In this context, the mining activity did not fulfil the criteria of *viability* of sustainable development. The exploitation by a mining activity can also be

examined as *non-equitable* if the exploration of natural resources is implemented without calculating the savings for future generations. Reijntjes, Haverkort, & Waters-Bayer (1992) extend the interrelation of those three factors into five criteria of sustainable development. Apart from the perspective of social justice, being environmentally friendly and economically viable, a sustainable development project should also fulfil the 'humane' factor as well as the 'adaptable' factor. The humane factor refers to the concern of humanity in any development project. Adaptability refers to the ability of the development project to be able to adapt to changes, adapting between traditional and modern advancements and institutions, as well as top-down and bottom-up approaches. Such sustainable development approach can indeed be realised through the integration of economic and socio-ecological perspectives (*cf.* Reijntjes, Haverkort, & Waters-Bayer 1992; Warren, Slikkerveer & Brokensha 1995; Dreo 2007; Swisher, Rezola & Sterns 2009; Brislin & Yoshida 2012).

2.1.3. The 'Cultural Dimension of Development'

Sustainable development suggests that economic activity must consider social and environmental factors. Both social and environmental factors vary from one country to another. While Hill (2014) discusses a development model for South-East Asia countries due to the existence of heterogeneities among the countries, Slikkerveer and Dechering (1995) suggest to approach those various states differently. In fact, the development that model applies to a country should be particularly distinguished from one country to another. In this context, the development approach as well as its model should consider an emic ('internal') view rather than an etic ('external') view. Culture is a particular example of how an emic view differs from one community to another, which distinguishes approaches in development. In this context, the development approach to the community could not be generalised by a single prescription of development. This generalisation approach in development, according to Marsden (1994), is an inappropriate form of development in the community. Generalisation, despite allowing the policy maker to make it easier to determine their policy, simplifies the complexity of the reality in the community. He mentions that: *'It is now commonplace to hear that there are many paths to development, each built on a different cultural base, and using different tools, techniques and organizations. The assumptions underlying the view that it would be sufficient to transfer Western technology and expertise no longer hold. It is not the 'native' who is backward, nor is it a failure to incorporate the 'human factor' which is at fault, but the essential inappropriateness of the western package that was on offer'*. Furthermore, Marsden (1994) states that: *'The arrogance with which policy makers and planners assumed that they were writing on a tabula rasa as they intervened in the Third World in the name of development, is being replaced by a reflexive understanding of the partiality of their own knowledge and a heightened appreciation of the value of other ways of perceiving the development task'*. The development planners often do not consider the cultural aspect of the local people. They tend to ignore cultural aspects in term of people's livelihood, traditions, ceremonies, food systems, as well as their cosmological views (*cf.* Marsden 1994; United Nations 2000).

The work of Warren, Slikkerveer & Brokensha (1995) initiated the importance of incorporating culture into development which underscores the approach of sustainable development. Kohls (2012) defines culture as a set of values in a group of people. It is an integrated livelihood system of learning behaviour patterns that are identical to the members of any particular society. It refers to the way of life for a particular society. It also encompasses what they say, do, and make in the society. Their artifacts can be identified from their customs, language, material artifacts, including their attitudes and feelings (*cf.* Jenkins 1993). In addition to that, Kluckhohn (2012) defines culture as consisting of patterned ways of thinking, feeling and reacting of a people and a community. It goes with the way of the people and community in

reasoning and behaving towards themselves and the environment. The essential core of the culture consists of traditional ideas and especially their attached values. Loeffelman (2010) states: '*Understanding the local cultural and gender dimension of any community is critical to the success of any development project. How can a development project succeed if the clients or population are not included in the organization and creation? How else will development practitioners, typically in the West, know what needs to be done in the local communities unless those people are directly involved? In some development organizations, when women in the global East and South are the recipients of aid, they are either left completely out of the development process or considered one homogenous group that has the same life experiences, needs, and goals for themselves and their families*'. Culture deals with cosmological perspectives or worldviews, and at the same time reflects on the actions of people and the community. It is a way of life as well as a system of conduct. It is not only invisible, but also contains physical objects which are related to human activity. It is inseparable to the history of the people and their social activities. It is cumulative and continuous: it doesn't belong to a particular generation, its influence is carried over through generations and it is transformed from one generation to another (cf. Jenkins 1993; Loeffelman 2010; Kohls 2012; Kluckhohn 2012).

Clammer (2005) examines the interaction between cultural studies and development studies. The cultural aspects of development actually become more important in sustainable community-based development studies. The pioneering work of Warren, Slikkerveer, & Brokensha (1995) is among the earlier well-documented research on this ground. Understanding development in the community requires in-depth analysis of the interrelated factors in the community systems. Neglecting the community factors and all interrelated factors within the community, as Marsden (1994) underscored earlier, means proposing inappropriate answers to important questions. A major challenge for the implementation of the concept of sustainable development, where cultural factors are integrated with development, is its essentially normative approach. As underscored by Wiesmann (1998), to make the concept of sustainable development operative, it must be translated into a set of new action-guiding ethical values of individuals and groups. Although globalisation makes some positive impacts such as easier access from one country to another, it challenges those communities where globalisation tends to create uniformity in the differences. Therefore, integrating culture into development plans is somehow not only meant to preserve their distinctive cultures, but also to ensure that the sustainability of people in the globe can be maintained.

Redefinition of well-being as the objective of development

While most of development figures used 'income' as the measurement for development achievement, some other groups started to criticise it. Warren, Slikkerveer, & Brokensha (1995) indicate the importance of cultural inclusion in development and how emic perspective in development is important. This view was followed by Hiemstra (2008) who introduces a concept of endogenous development. Endogenous means 'growing from within'. Endogenous development, similar to emic view, is a development approach based on people's initiatives of their own resources, values, knowledge, organization and strategies. The resources and development approaches implemented at the community level include material, socio-cultural and spiritual dimensions. This approach brought to the redefining *well-being* as an indicator of development objective beyond income. Endogenous Development defined well-being from a holistic perspective which encompasses social, material, and spiritual values of communities. Well-being became an important concept for pro-poor policy after 2015 and the Millenium Development goals as stated by Mcgregor and Sumner (2009). White (2010) further elaborates that the new measurement of well-being should incorporate the three integrating dimensions, which is named as 'the triangle of well-being': 1) subjective dimension; 2) material dimension; and 3) relational dimension. The material refers to any kind of *well-being*, such as food, clothes,

shelter and other physical resources and environment. In practical application this typically refers most immediately to economic assets and income, but it should not be restricted to this. The relational factors refer to social interaction, rules and practices that explain 'who gets what and why.' It relates to politics, power and identity, which brings the material and subjective to life. The subjective dimension refers to cultural values, cosmologies and also people's own perceptions of their environment. There are three aspects of well-being which need to be considered: 1) what people have or do not have (*material*); 2) what people can do or cannot do (*relational*); and 3) what people think or feel of something (*subjective*). Land, for instance, is easily understood in material terms. However, it only becomes a livelihood resource when it is transformed through the human activity of labour, the social contracts of ownership or use-rights, and cultural meanings and values (*cf.* White & Ellison 2007).

2.1.4 The Paradigm of Sustainable Community-Based Development

According to Korten (1990), the paradigm of Sustainable Community-Based Development refers to: '*a process by which the people of a society develop themselves and their institutions in ways that enhance their ability to mobilise and manage available resources to produce sustainable and justly distributed improvements in the quality of life consistent with their aspirations*'. The concept of development, the objective of development and development indicators should be seen not from the view of 'outsiders' but from the view of 'insiders'. This view has also been supported by the *Compass Group of Sustainable Development and Bio-Cultural Diversity* with the introduction of an 'Endogenous Development' approach, where development should be seen as 'growing from within' (*cf.* Hiemstra 2008). Thus, as part of approaching development through an emic view, understanding indigenous knowledge systems, people's participation and the involvement of local institutions in the community has become a key factor in integrating culture into development, as well as the basis for the implementation of sustainable community-based development. As Bergdall (1988) argues: '*for development efforts to be sustained over the long haul, strong indigenous institutions are required... locally grounded organisations are indispensable for durable initiatives to improve the quality of life – wherever in the world those initiatives might be*'. Similar to the concept of endogenous development, the inclusion of cultural aspects in development has also given rise to a discourse of 'community development' or 'community-based development'.

Community development is a development project in which local people in the community are included in a participatory process of development. It is based mainly on local strategies, knowledge, institutions and resources, although it is not an exclusive approach. It is meant to achieve improvement of 'human well-being' with a balance of the natural world, the spiritual world and the human world. Thus, the achievement of development is not merely materially measured, but also spiritually achieved. As explained further by Hiemstra (2008), endogenous development uses peoples' worldviews and livelihood strategies as a starting point for development at the community level. Many of these worldviews and livelihood strategies reflect sustainable development as 'a balance between material, social and spiritual well-being'. This concept of balance is important as it relates to cosmological views as far as the culture is concerned. In Indonesia for instance, *Tri Hita Karana* of the Balinese cosmovision (three causes of well-being) and the Sundanese *Tritangtu* are among the examples of this cosmological perspective which put the balance between humans, nature, and spiritual beings as an important measure in development achievement. Some key concepts within endogenous development are: local control of the development process; taking cultural values seriously; and finding a balance between local and external resources. The concept of endogenous development has similarities with the concept of 'Sustainable Community-Based Development' by Korten (1990) which has been mentioned earlier. Local culture and participation are some key points which have recently

been brought up in the discourse. They relate to a concept of community and how development should be implemented at the community level. While some authors responded with a debate on the concept and implementation of participation, as discussed by Matin & Graham (2010), Toledo (2001) proposes a concept of 'sustainable community development' which he adapted for sustainable rural development. Toledo suggests that there are six dimensions of sustainable community development (territorial, ecological, cultural, social, economic, and political) which are integrated from one to another. The basic idea of Toledo (2001) is that the integration of culture with development should accommodate other interrelated factors in the community, particularly at the village level. This includes the regulation-based cultural tradition on how economics could integrate with society and environmental safety. The holistic perspective of development as described by Toledo (2001) was initially suggested by Khan (1996) and Matin, Hulme, & Rutherford (1999) who suggest that development efforts can only be implemented for better improvement by having a comprehensive and holistic idea about the development itself. Khan (1996) also states that: *'most Programmes developed for the poor in the Third World failed because they are designed by professionals who belong to the upper classes and are not fully conversant with the sociology, economics, and culture of the low-income communities or the causes of conditions in low-income settlements'*.

Nevertheless, sustainable development is challenged by globalisation. While sustainable development suggests incorporating cultural factors in any improvement projects, globalisation tends to create uniformities and interdependencies, while neglects cultural diversities. It is characterised by an assimilation process from one country to another, including from developed countries to developing countries. The new challenges arising from globalisation are making it increasingly important to reconceptualise and to relate between culture and development. It encompasses redefining sustainability in the context of the relation between cultural diversity, biological diversity, and development. The work by Warren, Slikkerveer, & Brokensha (1995) elaborated how a cultural dimension in the community should be considered to integrate all the interrelated factors in the development approach and implementation.

2.2. The Study of the Plural Community Institutional System (PCINS)

2.2.1 The Role of Institutions in Development

Institutions play an important role in development. They encompass community-based types of institutions, which are mostly operating at the local level, to large companies which contribute to the production of goods and services for the people in a large scale of the economy of the country. In Bali province of Indonesia, the traditional institution of Subak has contributed to the water management systems, while in Jakarta, a large company has built a large-scale infrastructure, including roads and public transportation to support people's access to various services and facilities. Similarly, a combination between indigenous norms of *Tri Hita Karana* and a local governance of *Pakraman* with the village-level local institutions of *Lembaga Perkreditan Desa (LPD)* ('Village Credit Institutions') in Bali has successfully supported the economic activities at the community level. Institutions have also played important roles in reducing transaction costs in the economy, improving services to people and empowering people through entrepreneurship as well as in attempts on poverty alleviation. At the community level, local institutions pose an important factor in development. Local people use institutions to reach their well-being and as a medium to achieve development goals. They also empower local people's participation in the development process (*cf.* Warren, Slikkerveer & Brokensha 1995; Seibel 2008; Eicher & Garcia-Penalosa 2006). There are numerous studies showing evidence that local people were working collaboratively with local institutions to achieve sustainable

improvements in rural poverty reduction and management of natural resources. This reflects the practices of ethno-economics and its contribution to development which requires the participation of local people (*cf.* Uphoff 1992, Marsh 2003). While Marsh (2003) divides local institutions into various categories, *i.e.* Dairy Cooperatives, Traditional Authorities, Mutual Assistance, Church and Religious Institutions, Migrant Associations, and Traditional Savings & Credit Arrangements, including Community-based Natural Resources, Slikkerveer (2017) distinguishes local institutions into different categories, based on their characteristics. While the organisation refers to a complex structure of accepted roles, the rules and behaviour of a group of individuals in the community on an *ad hoc* basis – often transitory – may operate in formal and or informal ways. As for the institution, it refers to a structured complex of accepted roles, rules and behaviours of a group of individuals in the community on a protracted basis – often intergenerational – and may operate in a formal or informal way. For example, a new law firm is an organisation while a judicial court is an institution. An interesting factor, which has been identified as a ‘missing link’ on the side of policy makers and planners, is a general lack of interest and understanding of the target groups and their culture, largely represented by the indigenous peoples in developing countries (*cf.* Warren, Slikkerveer and Brokensha 1995; Woodley *et al.* 2006; Slikkerveer 2017).

Slikkerveer (1990, 2017) also makes a distinction between traditional, transitional and modern institutions, which is also defined as a ‘Plural Community Institutional System’. As far as the development approach is concerned, ‘traditional institution’ refers to an institution which plays its role in development, by implementing a bottom-up approach as local people are empowered by participating in the process. On the other hand, ‘modern institution’ refers to an institution which is established by external parties in the community, usually government or commercial institutions, which implement a top-down approach as the local people implement any project determined by the external parties. A ‘transitional institution’ in this context is an institution which combines bottom-up and top-down approaches involving local people in the development, which is set by external parties. A ‘local institution’ can also be categorised as a formal and informal institution as well as its sector-specific categories, *i.e.* economic institution, social institution, financial institution, medical institution and other sector-specific institutions. The three types of institutions: traditional, transitional and modern, play their own roles in development (*cf.* Slikkerveer 1990, 2012, 2017; Agung 2005; Djen Amar 2010).

2.2.2 The Concept of Plural Community Institutional System (PCINS)

The utilisation of traditional, transitional, or modern institutions of the local people in sustainable development depends on how people themselves view their world and the universe, including the way they utilise their resources, which is called the cosmological view. Cosmology deals with the study of how humans understand the universe and its components, how the world was formed, evolved and what it could become. Cosmology is used to understand how humans can achieve their happiness through their words and actions, based on their views of themselves, the society, the environment, and to a certain extent, the spiritual beings. For instance, ancient Indians believe that living in a scattered area is preferable to protect the natural environment than flocked in one particular area, by considering their belief about *maya*. Later in social science, the term migration develops further, related to the concept of the dynamics of the population (*cf.* Sumardjo 2010; Djunatan 2011).

Slikkerveer (2017) underscores the importance of institutions in sustainable community-based development. He distinguishes between institutions and organisations, as both terms are sometimes overlapping concepts or are often used interchangeably. By using the example of Blunt & Warren (1996), Slikkerveer (2019) further clarifies the distinction between the two: marriage for instance is an institution as it has longevity and legitimacy, while a particular family

or household is an organisation, which has particular roles. Organisations may become institutions, that is, 'institutionalised' if they acquire people's values and special legitimacy for satisfying their needs over a longer period of time, while Institutional systems refer to various activities by any kind of institutions at various levels of society (*cf.* Slikkerveer 2017). The basis of an institutional system in community-based development can be understood from the work of Uphoff (1986), which makes distinctions over various types of development-related institutions, ranging from the international level of institution to the individual level. This includes the middle level, which is also represented as a local level. Concerning the local level, there are three types of institutions: 1) the locality level; 2) the community level; and 3) the group level. In these three types of local institutions, the concept of Community Institutional Systems is applied.

This research will consider institutions with an organisational basis in the community, being endogenous, as opposed to exogenous which are mainly influenced by external factors. While Uphoff (1986) underscores 'local institutions' mainly with 'formal' institutions, Slikkerveer (2017) highlights the importance of seeking 'informal' institutions within the context of sustainable development, because of the growing evidence of the 'informal' institutional role in the development-related community-level decision-making process, which has become institutionalised over many generations. In support of sustainable livelihood, Marsh (2003) classifies local community institutions into formal and informal institutions, government-supported and government-repressed institutions, open access and restricted access institutions, and largely economic goals to wide-ranging socio-cultural and community goals. By using emic and etic views of development, Community Institutional Systems can be classified as 'Traditional Institutions' and 'Modern Institutions'. This distinction is rather easy to analyse from the insider and outsider view. With an additional consideration of top-down and bottom-up approaches of development, this research would follow the work of Slikkerveer (1990), Agung (2005), Leurs (2010), and Aiglsperger (2014), which distinguish institutions into three categories: Traditional, Transitional and Modern Community Institutions. The distinction is defined as 'Plural Community Institutional Systems'. While Traditional Community Institutions in development incorporate a combination between the emic view and 'bottom-up' development approach, Modern Community Institutions incorporate the opposite of the etic view and 'top-down' development approach. Transitional Community Institutions, on the other hand, are considered between the two approaches: the Transitional Institutions could be a combination between emic and etic or 'bottom-up' and 'top-down' development approaches. In Indonesia, such Transitional Community Institutions have existed in the development policies. The Community-Driven Development programmes, implemented by the Government of Indonesia during 1998 to 2013, are examples of this type of transitional community institutions (*cf.* Uphoff 1986; Slikkerveer 1990, 2019; Marsh 2003; Agung 2005; Leurs 2010; Wong 2012; Aiglsperger 2014).

In addition to formal and informal institutions, Slikkerveer (2012) supports the view of Pejovich (1999) who defines *informal* institutions as: '*traditions, customs, moral values, religious beliefs and other norms of behaviour which have passed the test of time, being part of a community's heritage which is called culture*'. With regards to the support of development at the community level, institutions can be categorised as traditional or indigenous institutions, transitional institutions and modern institutions: 1) *Traditional or Indigenous Institutions*. These refer to institutions established through a bottom-up initiative by local people in the community, that aim to empower local people in achieving their development objectives. Slikkerveer (2017) divides the traditional institutions into several types, including Indigenous Social Institutions, Indigenous Cultural Institutions, Indigenous Economic Institutions, Indigenous Medical Institutions, Indigenous Educational Institutions, and Indigenous Age-Grade Institutions (*cf.* Slikkerveer 1990, 2017); 2) *Transitional Institutions*. These refer to institutions established as a combination between a local initiative with external influences. This is a combination between

'bottom-up' and 'top-down' development approaches. The operations of the institution are usually started by the local initiative, but involve government or private institutions in practice, to support financial or other resource supports based on rules and regulations; and 3) *Modern Institutions*. These refer to institutions established in the community by external parties, including government and private organisations to support the development activity in the community. It also uses a top-down approach of development. The above categorisation can be perceived of as 'Plural Institutional Systems' which at the community level can be defined as 'Plural Community Institutional Systems' (PCINS). The explanation of this concept will be elaborated in the next paragraphs.

2.2.3 The Traditional Community Institution (TRCIN)

Traditional Community Institutions (TRCIN) are generally believed to play an important role in developing and low-income countries by facilitating activities in the community when the market functions imperfectly. As Bergdall (1988) underscores, for development efforts to be sustained over the long term, strong indigenous institutions are required in any approach of sustainable community-based development. Wijayaratna (2004) highlights that the role of 'Traditional or Local Institutions' such as government units, formal and informal local institutions including cooperatives, culture groups and NGOs, is becoming more important for the realisation of the integration of various rural development efforts. The term 'traditional' in this research is used interchangeably with the term 'local' and 'indigenous' with a specific characteristic of 'bottom-up' orientation, using local people's beliefs and practices, with full local participation, using internal resources of the community. However, the work of Watson (2003) highlights that the term 'indigenous' is broader in accommodating cultural and community-based development programmes; indigenous institutions have proven their contribution in the so-called modern world development.

Slikkerveer (2019) defines traditional or indigenous institutions as: *'local-level institutions with a socio-cultural and endogenous base, informal and sometimes invisible to the outsider, rooted in the history of the community and based on strong local philosophical principles of cooperation, mutual aid, and collective action, where the interests, resources and capacities of many community members are structurally joined together in order to achieve common goods and services for the entire community in a non-commercial way'*. This perspective links up with the substantial works on indigenous knowledge systems in various subjects of the society, which are supporting the base for local-level decision-making processes, and as such are essential for attaining sustainable community development. Furthermore, Donnelly-Roark & Ouedrago (2001) state that traditional institutions encompass many different types of indigenous organisations and functions such as village-level governance, acceptable methods of community resource mobilisation, security arrangements, and conflict resolution at the community level. In some rural areas, traditional institutions include councils of elders, traditional midwives, indigenous rainmakers, and traditional rotating savings and borrowing systems. In some places, sacred forests and trees are also included in the term. Research has found that sacredness bestowed on some trees or forests reflects important ecological functions. It also has a function to protect public goods and the environment (*cf.* Slikkerveer 2019; Donnelly-Roak & Ouedrago 2001).

In the past, traditional institutions or indigenous institutions were seldom regarded as an important factor in sustainable development. However, the work by Donnelly-Roak & Ouedrago 2001 *et al.* (2001) in Burkina Faso has shown that the utilisation of high-performing traditional institutions has effectively reduced inequality as well as poverty, and promotes more equal development. People's participation and indigenous management councils are key factors in the successful implementation. Similarly, the work by Seibel (2008) also shows that microfinance institutions in Bali, Indonesia could be effectively operated in poverty alleviation programmes,

by integrating the local institutions of *Lembaga Perkreditan Desa* ('Village Credit Institutions') with the indigenous governance of *Pakraman*. Earlier work by Warren, Slikkerveer & Brokensha (1995) in fact documents about forty cases based on this role of traditional institutions. For instance, the Indigenous Water Management System of *Subak* in Bali has contributed to the local development of Bali for many generations, supporting the 'bottom-up' development approach in balancing the local bio-cultural diversity. In addition, the practice of *Lumbung Pitih Nagari* in West Sumatra, *Gintingan* in West Java, *Jimpitan* in Central Java and *Bojokan* in East Java are some examples of how these traditional institutions have been implemented for many generations in supporting sustainable community development in Indonesia (cf. Warren, Slikkerveer & Brokensha 1995; Donnelly-Roak & Ouedrago 2001; Seibel 2008; Slikkerveer, Baourakis & Saefullah 2019).

2.2.4 The Transitional Community Institution (TSCIN)

According to Oxford Living Dictionaries (2018), the word 'transition' refers to 'a process of changing from one state or condition to another'. In other words, transition could be defined as 'in-between'. Transitional institutions could be representing in-between private and public institutions, 'in-between' commercial and non-profit organisations, and even in-between traditional and modern institutions. In the context of the emic and etic views of development as introduced by Slikkerveer & Dechering (1995), the transitional development approach can be regarded as a combination between emic and etic views of development. In addition to that, by using the development discourse of 'bottom-up' and 'top-down' approaches, the transitional development approach can be understood as a combination between those two. Concerning the economic system, Ahrens & Junemann (2010) refer to a 'transitional institution' as a transformation stage from a 'centrally planned economy' to a 'capitalist market economy'.

As regards the approach which is used in this research, transitional institutions in development or Transitional Community Institutional Systems (TSCIN) can be considered as the institutions operating on the basis of a combination between local people's initiative with the involvement of other institutions from outside of the community. Transitional institutions operationalise their activities through a combination between bottom-up initiatives and top-down supports, together with the combination between emic and etic views of development. During the period of 1998 to 2013, Indonesia implemented Transitional Community Institutional programmes. The *Program Pembangunan Kecamatan* (PPK) ('Kecamatan Development Programme'), *Program Penanggulangan Kemiskinan Perkotaan* (PPKP) ('Urban Poverty Programme') and *Program Nasional Pemberdayaan Masyarakat* (PNPM) *Mandiri* ('National Programme for Community Empowerment') are the formal institutions used in the programmes. The programmes were introduced together with the implementation of the decentralisation law in Indonesia; afterwards, for about 32 years, the economy of the country had been planned by the central government. In this context, the intention of the central government is to accommodate local people's perspective and participation in development, while in some particular sectors of the economy and politics, the central government is still controlling the power. The Community-Driven Development programmes, particularly the Urban Poverty Programme, are another representative Transitional Community Institutional System, as they combine local initiatives and external funding support. The World Bank states that '*Through a bottom-up and transparent approach, the project seeks to improve basic infrastructure in poor urban neighborhoods and to promote sustainable income generation for its poor urban residents who are mostly long-term poor, have incomes eroded by high inflation, or lost sources of income in the economic downturn. Also, the project seeks to strengthen the capability of local agencies to assist poor communities*' (cf. World Bank 2013).

Wong (2012) indicates that the Kecamatan Development Programme (KDP) became one of the largest World Bank-financed Community-Driven Development Programmes, with an accumulated budget of some USD 700 million distributed to the people in the community to execute their development programmes. The Kecamatan Development Programme has been implemented under the Directorate of the Community Development of the Ministry of Home Affairs. The Directorate coordinated the KDP together with the teams of facilitators and consultants from the village level to the national level, and provided some technical support and training. At the village level, a ‘Village Facilitator’ was selected in a public forum by the local community to coordinate the programme. Project decisions were made locally and the ‘Village Committees’ were responsible for procurement, financial management, project implementation and oversight. The projects on infrastructure used local building materials, suppliers and labourers. Indonesian civil society organisations such as the ‘Association of Journalists’ and NGOs which are based in the provinces have been providing independent monitoring for the PPK, which had started in 1998 during a period of great political and economic turmoil. After three years of its operation, the PPK had reached a coverage of 4,048 *Kecamatan* (‘Sub-districts’) and 69,168 *Desa* (‘Villages’) (*cf.* Wong 2012; Slikkerveer & Saefullah 2019).

The effectiveness of this type of transitional developmental system has been questioned by many researchers. While the initial motive was to increase equality in development, the PPK can be considered as rather successful in reaching its target. However, it has also been reported that the successful coverage was largely determined by a form of one-way communication and a ‘top-down’ approach. The implementation of a ‘bottom-up’ approach in this transitional type of institution, *i.e.* the PPK programme, had also failed. Many cases have been reported in which the proposal for a development project had not been designed by the local people at the village level, but rather by the coordinator at the *kecamatan* level, where in many cases even the decisions on the development sector had been taken. Furthermore, concerning the Urban Poverty Programme, the institutions could not reach the poorest of the poor, yet failed to lift up the extreme poor. The programme seems unsuccessful in reaching this group in the community. According to the Report, the volunteers and consultants preferred to lend the money to the economically active poor and micro-enterprises rather than to the poorest of the poor, due to the risks that the project had to face (*cf.* Bappenas 2013).

2.2.5 The Modern Community Institution (MDCIN)

As a contrast to traditional institutions, modern institutions refer to formal institutions with characteristics of an exogenous base, based on impersonal transactions among the community members for mostly a commercial purpose. The concept of modern is often related to the modernisation concept in the development discourse, which is influenced by the intervention of the developed countries to developing and poor countries. It also refers to the external and or top-down intervention on the community to transfer the condition of the community to certain standards of development set by the development agencies. Microfinance institutions, credit savings associations, village unit institutions which are established by the Bank and act as their branches, and insurance organisations are some examples of these modern community institutions. They do not only operate at the national level, but also at the local level (*cf.* Marsh 2003; Wong 2012; Slikkerveer 2017). These types of modern institutions identify the community as a development object, which can be changed through development interventions. The interventions can be formed as cash subsidies and development projects, as well as other programmes, which are decided by people outside of the community, and not by the local people themselves.

According to Robinson (2001), the poor which are supported by these modern community institutions are categorised into three groups, based on their income levels: the poorest of the poor, the economically-active poor and the lower middle-income poor. As seen in Figure 2.2, each of these groups were assisted through two types of financial schemes, either commercial financial services or subsidised poverty alleviation programmes.

Income Level	Commercialized Financial Services			Subsidized Poverty Alleviation Programs
Lower Middle Income	Standard Commercial Bank Loans & Full Range of Saving Services		Interest-bearing saving accounts for small savers	Poverty programs for such purposes as food and water, medicine and nutrition, employment generation, skills training and relocation
Economically Active Poor		Commercial Micro Loans		
		Official Poverty Line		
Extremely Poor				

Figure 2.2. Financial Services in the Poverty Alleviation Programmes.

Source: Robinson (2001).

The story of Muhammad Yunus' Grameen Bank, Bank Rakyat Indonesia in Indonesia, and the Self-Help Group in India are some examples of the glories of these types of financial assistance. A number of studies have been done on the success story of microfinance in development, and yet its role in poverty alleviation is still in question. Obaidullah (2008), Hulme & Mosley (1996); Brower & Dijkema (2002), Chowdhury & Bhuiya (2004), Phitt & Khandaker (1996) and SMERU (2005) are some studies which document the success stories of microfinance institutions, while Fernando (2004), Ellerman (2007), Bateman (2010) and Duvendack *et al* (2011) are some studies which criticise the glories of microfinance. Fernando (2004) argues that: *'The users of microfinance are generally those who are living within poverty lines, and those who are among the poorest in the society remain neglected and invisible by the microfinance. The requirement set by microfinance cannot be fulfilled by the poorest or extremely poor groups in the society'*. Microfinance is still exclusive to those who are living under the poverty line or extremely poor groups of people (*cf.* Hulme & Mosley 1996; Phitt & Khandaker 1996; Yunus 1999; Chowdhury & Bhuiya 2004; SMERU 2005; Obaidullah 2008). This conclusion has been identified by Slikkerveer (2007) who states: *'... as the result of recent efforts solely to implement the 'institution-building approach' by private and public institutions, ... the poor remain largely excluded from the formal financial services of cooperative societies, NGOs and private enterprises, impeding the process of attaining overall financial sustainability...'*

In conclusion, Uphoff (2004) states that there are various reasons why local community institutions have not played more effective roles in community development. The overcentralisation of the government is one of the obstacles of the role of local institutions in development. The centralised governance renders local institutions unable to empower themselves and contribute to the community development.

2.3. Indigenous Knowledge Systems, Ethnoscience and Ethno-economics

The integration between culture and development has been acknowledged in society. Some development activities in society have been rooted in some particular cultures. In Indonesia, for instance, there is *Subak* in Bali Province, where there is a water management system based on the Balinese cosmology of *Tri Hita Karana*, where a balance between human, the spiritual world

and the earth should be considered in any development project in Bali. This water temple system is based on Hinduism beliefs; in one of their books, *Rajapurana Ulun Danu Batur*, which stated that: *'Because the Goddess makes the waters flow, those who do not follow her laws may not possess her rice terraces'* (cf. Lansing & Kremer 1993). Similarly, Japanese recovery after World War II, the Basque experience in Spain, Township and Village Enterprise in China, and India's Kerala model of development are some other examples of how cultural factors contributing to development progress. The next section attempts to explain the importance of Indigenous Knowledge Systems, Ethnoscience and Ethno-economics, as the theoretical framework used in this study (cf. Clammer 2005; Bateman 2010; Taramol 2014).

2.3.1. The importance of Indigenous Knowledge Systems in Development

Indigenous Knowledge (IK), or Traditional Ecological Knowledge (TEK), is used to define the knowledge systems developed by an indigenous people and its community as a contrast to 'modern' scientific knowledge (cf. Slikkerveer 1999). This study refers to IK, the knowledge which indigenous people acquired from generation to generation, mostly based on their life experience with nature and influenced by their cosmological beliefs. IK is the basis for local people's decision-making in many rural communities and ethno-cultural groups of a society. Indigenous Knowledge Systems (IKS) deal with specific systems of knowledge and practice, developed and accumulated over generations, often outside universities, research institutions and laboratories, which form the basis of local-level decision-making processes, and are as such unique to a specific culture or region (cf. Slikkerveer 1995). It has value not only for the culture in which it evolves, but also for scientists and development planners striving to improve the livelihood and well-being of rural communities. As Warren, Slikkerveer & Brokensha (1995) indicate, incorporating IK into development, including for instance climate-change policies, could result in the development of effective participatory and sustainable adaptation strategies which are suitable to the people (cf. Warren, Slikkerveer & Brokensha 1995; Slikkerveer 1999). Furthermore, the Brundtland report states *"These communities are the repositories of vast accumulations of traditional knowledge and experience that link humanity with its ancient origins ... It is a terrible irony that as formal development reaches more deeply into rain forests, deserts and other isolated environments, it tends to destroy the only cultures that have proved able to thrive in these environments ... Hence the recognition of traditional rights must go hand in hand with measures to protect the local institutions that enforce responsibility in resource use. And this recognition must also give local communities a decisive voice in the decisions about resource use in their area"* (cf. WCED 1987: 114–16).

Marglin & Marglin (1990) have criticised the superiority of modern science that underestimates Traditional Ecological Knowledge (TEK) as 'backward' by judging it as 'less scientific' because it promotes superstition, religious obscurantism or even barbarism. In addition to the critical views of the failure of modern scientists to perceive the traditional knowledge of particular cultural beliefs and practices within the larger context, there is a question to the modern science, which in fact also uses 'superstition' or 'beliefs' in their practices. For instance, traders in a capitalist society sometimes uses their feelings to predict the market and its changes. In this context, the view of modern, transitional or traditional science is in fact perceived as socially constructed (cf. Marglin & Marglin 1990; Slikkerveer 1999). Over the course of their history, indigenous peoples have maintained livelihoods and cultures which are intricately tied to nature. Their values, belief systems, and cosmological views have evolved to enable them to survive within the changing circumstances and environments.

According to Anaya (1996), the value of Indigenous Knowledge System is becoming recognised by scientists, managers, and policy-makers, and is an evolving subject of national and international law. Indigenous peoples themselves have repeatedly claimed that they have

fundamental rights to Indigenous Knowledge because it is necessary to their cultural survival, and this principle is increasingly being recognised in international law. The UN Declaration on the Rights of Indigenous Peoples which was acknowledged by the UN Human Rights Council in 2006 states that indigenous peoples have the right to maintain, control, protect, and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literature, designs, sports, traditional games and visual and performing arts. While indigenous peoples have sometimes caused extinctions and degraded environments, they have often persisted for ages in their territories by using detailed adaptive knowledge. As regards the community institutional systems, indigenous knowledge system provides the cosmological basis to the people of how the institutions can be utilised and sustained in the community-based development (*cf.* Bergdall 1988; Posey 1999; UNDRIP 2007).

2.3.2. Indigenous Knowledge Systems and Ethnoscience

Ethnoscience can be defined as a way of learning and understanding how humans perceive their environment and how they make adaptations to their environment as reflected in their own daily words and actions. Thus, ethnoscience is a cross-disciplinary orientation of knowledge. It collaborates with the disciplines of social sciences and humanities, with mathematics and natural sciences (*cf.* Ingold 2000). Ethnoscience deals with the perspective of Indigenous Knowledge (IK) in contributing to society. Ethnoscience uses an emic perspective of science, which deals with how a 'native' or indigenous people, which has been implemented from generation to generation and has benefited people and the community. On the other hand 'modern' science uses a researcher's perspective which is mostly constructed from 'keeping a distance between a scientist and a scientific object'. Ethnoscience is a study of people's worldviews, knowledge and perception of the world as represented in their own use of language and action. Modern scientists are often critical of the value of IK except when it has been reshaped in 'modern' scientific terms, and may withstand IK with superstition, irrationalism, and tribalism (*cf.* Scott 1998). IK has often been regarded as unsystematic and incapable of achieving the objective development needs of the modern world. Modern societies have considered indigenous people and traditions as less progressive; as a result many groups of indigenous peoples, especially their younger generations, devalue their local cultures and tend to follow modern lifestyles and technologies. By consequence, IK have not been captured in a systematic way and are endangered. Recent studies on history, sociology and anthropology, as well as the philosophy of science, criticise the superiority of the term 'objectivity' in modern science by explaining how a community of scientists' shared commitment to presupposed metaphors and paradigms determines the status of observations and accepted facts. At the same time, there is increasing awareness that indigenous peoples do in fact have knowledge about the properties of the natural world which are important and valuable. The acknowledgement is behind the efforts of pharmaceutical industries to make acquaintance with traditional healers in the rainforests of the world, to study the healing properties of medicinal plants and their collection, including cultivation and preparation. It is also behind the attempts of the major seed companies and genetic engineers to study indigenous cultivated varieties from indigenous farming populations around the world (*cf.* Rist & Dahdouh-Guebas 2006).

The incorporation of indigenous knowledge into science is called 'ethnoscience', because it is seen as essentially rational and rooted in a process of empirical research and scientific testing over many generations. It is 'ethnoscience' because it is context-specific in as much as it is expressed in the everyday languages of the people who developed the knowledge, and is shaped by their particular lifestyles and cognitive maps. As elaborated by Slikkerveer (2006), the field

of 'ethnoscience' developed from the discipline of cognitive anthropology in the 1950s as complementary to *science*, which is introduced on the basis of indigenous people's own ideas, perceptions, practices, experiences and wisdom; the continuation of the *emic view* of development studies, the use of the local people's language, their indigenous classification of plants, animals, religion and life, as well as their indigenous cosmologies and philosophies of nature and the environment are the subject of ethnoscience research (Slikkerveer 2016). As stated by Slikkerveer (1999), the debate on the discourse of ethnoscience has shifted from 'what is the value and usefulness of indigenous knowledge systems for sustainable development?' to 'how can such knowledge systems be used to ensure equitable benefit sharing of the resources with the contributing communities?' (cf. Slikkerveer 1999). It moves from an ontological discourse to epistemology and axiology. There are numerous studies which have been demonstrating the evidence from ethnoscience research. The work of Warren, Slikkerveer and Brokensha (1995) documents more than forty indigenous knowledge-based development cases from various places in the world, particularly in Asia to Africa. In a Food for Work programme in Nepal, significant losses of food in the distribution system were reduced when the programme switched to the use of local technologies and networks. In Bali, the Water Management System has been implemented for centuries, which is based on Balinese cosmology. (cf. Marglin & Marglin 1990; Warren, Slikkerveer & Brokensha 1995; Agung 2005; WHO 2015)

Slikkerveer (1999) attempts to further functionalise ethnoscience into practices by proposing an important methodological approach in integrating culture and development by identifying interrelated factors that cause people's behaviour in the community. The methodology was established under the Leiden Tradition of Structural Anthropology, named the 'Leiden Ethnosystems Approach', which combines between people's perspective through 'Participant's View (PV)', a comparison analysis among different-comparable communities through 'Field of Ethnological Studies (FES)' and a historical analysis on the concept and practices of the subject of ethnoscience. This method will be elaborated further in Chapter III of this book. The approach perceives some evidences of how ethnoscience are applied in the community. Agung (2005) investigates how the Balinese Cosmology of *Tri Hita Karana* influences many activities of people in Bali. Leurs (2010) describes people's preferences towards traditional or modern institutions, on the use of MAC plants. Djen Amar (2010) and Erwina (2019) elaborate the practices of ethnocommunication in a rural area of Bandung, West Java. Ambaretnani (2012) discusses the role of traditional midwives in society. Chirangi (2013) describes the interprofessional collaboration on health care towards modern and traditional systems. Finally, Aiglsperger (2014) describes indigenous health care in rural Crete, Greece, and Erwina (2019) documents health information and communication systems in a Sundanese community in Bandung, West Java (cf. Slikkerveer 1999; Agung 2005; Leurs 2010; Djen Amar 2010; Ambaretnani 2012; Chirangi 2013; Aiglsperger 2014; and Erwina 2019).

2.3.3. Ethno-economics, Ethno-development and Sustainable Community-Based Development

As for economics, an emic view towards the economic activity of the people at the community level brings a different perspective of how development should be approached. While the mainstream economic approach, views economic problems from the perspective of the policy maker, the emic view suggests accommodating the voice of the people, particularly their understanding of their economic problems. It comprises knowledge pertaining to various economic activities. Ethno-economics deals with an economic activity which is implemented by indigenous or local people and local institutions, which is based on bottom-up approaches and involves local peoples' participation in the use of local resources. Unlike modern economics, which is driven by market theory and seeks to profit in any kind of transaction, ethno-economics

mainly deals with people's activities which is not only aiming to fulfil economic goals, but also socio-cultural objectives (cf. Umoh-Akpan 2000; Ovchinnikov & Kolesnikov 2006). Furthermore, Ovchinnikov & Kolesnikov (2006) address some important characteristics of ethno-economics, as follows: 1) The prevalence of informal institutions; 2) The predominance of traditional forms of economic activity, mostly farming; 3) A combination of subsistence and small-commodity production, closed household economy, underdeveloped exchange and trading; 4) Immobile resources typical of the local habitat; 5) Empirical labour and economic experience, use of arts and crafts and cottage industries; 6) An extensive employment pattern based on a primary producing economic infrastructure and predominantly manual labour; and 7) Low social and geographical mobility of the population.

Uphoff (2004) states that the overcentralised governance towards the community, is one of the factors causing the inability of local institutions to contribute to sustainable community development. Ethno-economics provides the answer, by empowering the local institutions to participate in the process of development in the community. The use of ethno-economics in development brings the approach into the '*ethno-development*' paradigm. Ethnodevelopment refers to the right of local people, including ethno-cultural groups, to participate in the development process with their own approaches (Seymour-Smith 1986: 97). The work of Warren, Slikkerveer & Brokensha (1995) is also based on this ethnodevelopment paradigm, in which a cultural dimension is integrated in the process of development. The term '*ethno-development*' has been introduced by Stavenhagen (1986) to describe development which takes into account the need to maintain ethnic diversity as development takes place. According to Hettne (1995), there are four main aspects of ethnodevelopment which can be described as follows: 1) Territorialism: the spatial concentration of ethnic groups, such that decisions about '*development*' are made within a particular territory based on the resources of that particular area; 2) Internal Self-determination: the ability for a particular ethno-cultural group to control collectively its destiny within the context of a nation-state; 3) Cultural Pluralism: the existence of and mutual respect for a number of cultures within one society; 4) Ecological Sustainability: the idea that development should progress with no significant destruction of the natural environment which would threaten future livelihoods (cf. Seymour-Smith 1986; Stavenhagen 1986; Warren, Slikkerveer & Brokensha 1995; Hettne 1995; Willis 2011).

There are numerous examples of how the practices of ethno-economics as well as ethno-development have contributed to sustainable community development. For instance, in Nigeria there are *Nka* and *Etibe* associations. They are both examples of traditional informal collective farming, organised on the basis of labour contributions among the neighbourhood members. In Indonesia, there is another example of how ethno-development has been implemented, *i.e.* *Lembaga Perkreditasi Desa* ('Village Credit Institution') in Bali, *Ijon* in West Java, *Gintingan* and *Andilan* in West Java, *Bojokan*, *Rewangan* and *Jimpitan* in Central and East Java, *Lumbung Pitih Nagari* in West Sumatra and many other similar institutions which integrate culture and development (cf. Partadiredja 1974; Okuneye 1985; Korten 1990; Irawan 1999; Seibel 2008; Umoh-Akpan 2000; Basa 2001; Wijaya 2010; Prasetyo 2012; Okuneye 1985; Umoh-Akpan 2000).

